SAFETY DATA SHEET

Creation Date 25-Jun-2026 **Revision Date** 04-Nov-2026 **Revision Number** 2.1

According to OSHA Hazard Communication Standard (29 CFR 1910.1200), Regulation (EC) No. 1907/2006 (REACH) as amended by EU 2020/878, and Regulation (EC) No. 1272/2008 (CLP)

1. Identification

1.1 Product identifier

Product name: Krakatoa
Product code: HTA-KA-PC100 (CB23726), HTA-KA-PC200 (CB23726HC)
UFI: To be assigned by EU importer

1.2 Relevant identified uses of the mixture and uses advised against

Identified uses: Enzyme preparation for research and development applications. For research and development only.
Uses advised against: Any use not identified in this SDS; consumer use.
Recommended Restrictions: Must be used under the direction of a technically qualified individual.

1.3 Details of the supplier of the safety data sheet

Manufacturer (U.S.):
Cinder Biological, Inc.
1933 Davis Street, Suite 208
San Leandro, CA 94577, USA
Telephone: +1 (510) 255-3236
Website: www.cinderbio.com
EU Responsible Person / Importer: To be supplied by EU distributor

1.4 Emergency telephone number

- **U.S. emergency number:** In case of emergency, call 911.
- **EU emergency number:** To be provided by EU importer
- **Languages:** English

2. Hazard(s) identification

2.1 Classification of the mixture

Physical hazards: Not Classified
OSHA HazCom 2012: Skin irritant, Category 2B
Classification: Eye irritant, Category 2B

EU CLP Classification:	Skin Irritation, Category 2 — H315 Eye Irritation, Category 2 — H319

2.2 Label elements

Label elements:



GHS07 (Exclamation Mark)

Signal Word:	Warning
Hazard Statement:	H315: May cause skin irritation H319: May cause eye irritation
Precautionary Statements:	**P264:** Wash hands thoroughly after handling. **P280:** Wear protective gloves/eye protection. **P302+P352:** IF ON SKIN: Wash with plenty of water. **P305+P351+P338:** IF IN EYES: Rinse copiously with water for several minutes; remove contact lenses if present and continue rinsing. **P337+P313:** If eye irritation persists: get medical attention. **P501:** Dispose of contents/container and residues in accordance with local regulations.
Response:	If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. If eye irritation persists: Get medical advice/attention
Storage:	Keep container tightly closed, store at ambient temperatures.

2.3 Other hazards

Hazard(s) not otherwise classified (HNOC):	This mixture does not contain substances identified as PBT or vPvB. No endocrine-disrupting properties are known. No other known hazards.

3. Composition/Information on ingredients

Chemical name	CAS number	EC	Wt. %	OSHA Classification	CLP Classification
Hazardous Ingredients					
Protease Enzyme	None assigned	None assigned	<1%	Respiratory sensitizer 1; Skin irritant 2; Eye irritant 2A	Resp. Sens. 1 (H334); Skin Irrit. 2 (H315); Eye Irrit. 2 (H319)
Other ingredients					
Water	7732-18-5	231-791-2	98.5-99.9%	Not classified	Not classified
Citric Acid	77-92-9	201-069-1	0.383-1.514%	Eye irritant 2A	Eye Irrit. 2 (H319)
Dipotassium phosphate	7758-11-4	231-834-5	0.172-0.683%	Not classified	Not classified

Composition Comments: The manufacturer has claimed the exact percentage as trade secret under the OSHA Hazard Communication Standard.

REACH Registration Numbers: To be provided by EU importer

4. First-aid measures

4.1 Description of first aid measures

Inhalation: Non-aerosol proteinaceous aqueous solution. If inhaled move person to fresh air. Seek medical attention if symptoms develop or persist.

Skin contact: Remove contaminated clothing immediately and wash skin with soap and water. Seek medical advice if irritation develops.

Eye contact: Rinse copiously with water for several minutes. Remove contact lenses if present. Seek medical attention if irritation develops and persists.

Ingestion: Rinse mouth. Do not induce vomiting. Seek medical attention if symptoms occur.

4.2 Most important symptoms and effects

Most important symptoms/effects:	Skin and eye irritation, reddening and itching of skin or irritation of eyes.
Indication of any immediate medical attention:	Rinse contaminated skin or eyes with copious amounts of water. Provide general supportive measures and seek medical attention if irritations persist. Monitor exposed areas as irritation may be delayed.
General information:	Ensure that medical personnel are aware of the materials(s) involved and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

5.1 Extinguishing Media

Suitable:	Non-flammable aqueous solution. Foam, dry chemical powder, or carbon dioxide (CO2) extinguishers are compatible.
Unsuitable:	None known.

5.2 Special Hazards

Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed, such as carbon oxides and phosphorous oxides.

5.3 Advice for firefighters

Special protective equipment:	Standard firefighting PPE
Firefighting equipment/ instructions:	Move containers from fire area if you can do so without risk.
Specific methods:	Use standard firefighting procedures and consider the hazards of other involved materials
General fire hazards:	None. No fire or explosion hazards (aqueous solution).

6. Accidental release measures

6.1 Personal precautions

Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see Section 8 of the SDS.

6.2 Environmental Precautions

Avoid discharge or release of large quantities into drains, water courses or onto the ground.

6.3 Methods for containment and cleaning up

Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

7.2 Condition for safe storage

Store in tightly closed container at ambient temperatures. Store away from incompatible materials (see Section 10 of the SDS). Avoid strong bases and oxidizers.

8. Exposure controls/personal protection

8.1 Control parameters

OSHA PELs: None established for enzymes.

ACGIH TLVs:	None established for enzymes.
EU OELs:	None established for enzymes.
DNELs/PNECs:	To be provided by EU importer if available.
Biological limit values:	None established for enzymes.

8.2 Exposure controls

Engineering controls	None.
Eye/face protection:	Wear safety glasses with side shields (or goggles).
Skin protection:	Wear appropriate chemical resistant gloves. Wear appropriate chemical resistant clothing.
Respiratory Protection:	Non-volatile aqueous solution, avoid atomization.
Thermal hazards:	Wear appropriate thermal protective clothing, when necessary.
Environmental controls:	Avoid release to the environment.
General hygiene considerations:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove any contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Property	**Value**
Appearance:	Clear to slightly yellow aqueous liquid
Odor:	Odorless
Odor threshold:	No information available
pH:	3.0 - 6.5
Melting/freezing point:	0°C
Initial boiling point/range:	100°C

Flash point:	Not applicable
Evaporation rate:	No information available (>95% water)
Flammability (solid, gas)	Not flammable
Vapor pressure	No information available
Vapor density	No information available
Density	1.0 g/cm3 (20 °C)
Solubility (water)	Fully miscible in water.
Partition coefficient (n-octanol/water)	No information available
Auto-ignition temperature	No information available
Decomposition temperature	>170°C
Viscosity	8.90 x 10^{-4} Pa.
Explosive properties	Not explosive
Oxidizing properties	Not oxidizing

10. Stability and reactivity

Reactivity:	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No dangerous reaction known under conditions of normal use.
Conditions to avoid:	Temperatures above 120°C.
Incompatible materials:	None known.
Hazardous decomposition products:	Carbon oxides and phosphorous oxides.

11. Toxicological information

Acute toxicity:	Not classified.
Skin irritation:	May cause mild irritation.
Eye irritation:	Causes eye irritation.
Respiratory sensitization:	None known.
Carcinogenicity/Mutagenicity/ Reproductive toxicity:	None known.
Endocrine disruption:	No evidence of endocrine-disrupting properties.
Protease enzyme:	

Acute oral toxicity	No data available.
Acute dermal toxicity	No data available.
Acute inhalation toxicity	No data available.

12. Ecological information

Not required by OSHA; provided for EU compliance

Ecotoxicity:	The product is not classified as environmentally hazardous .
Aquatic toxicity:	Not classified as hazardous.
Persistence and degradability:	No data available.
Bioaccumulation:	No data available.
Mobility:	Expected to be mobile in water.
PBT/vPvB:	Not applicable.
Endocrine disruption:	No evidence.

13. Disposal considerations

Disposal instructions:	Dispose of contents/container in a safe manner in accordance with local/regional/national/international regulations. Empty containers may retain some product residues.
Waste code:	The waste code should be assigned in discussion between the user, the producer, and the waste disposal company. In the EU, code to be assigned by waste handler.
Contaminated packaging:	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

UN number:	Not regulated.

Proper shipping name:	Not applicable.
Transport hazard class:	Not applicable.
Packing group:	Not applicable.
Environmental hazards:	None known.
DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Bulk Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

US Federal Regulations (OSHA)

OSHA HazCom: This product is a hazardous chemical as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200

TSCA Inventory: For Research and Development Purposes Only. Must be used under the supervision of a technically qualified individual. Importer must verify listing requirements.

TSCA Section 12(b): Not applicable.

SARA 302/304/311/312/313: Not classified.

EU Regulations

REACH: Components may require registration by EU importer.

CLP Classification: As listed in Section 2.

Restrictions (Annex XVII): None known.

Authorizations (Annex XIV): Not applicable.

SVHC status: No components listed as SVHCs.

16. Other Information, date of preparation or last revision

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List of abbreviations

DOT	Department of Transportation (49 CFR 172.101).
IATA	International Air Transport Association.
IBC Code	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
IMDG Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration, 50%.
LD50	Lethal Dose, 50%.
MARPOL	International Convention for the Prevention of Pollution from Ships.
PEL	Permissible Exposure Limit.
TWA	Time Weighted Average Value.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.

References Internal technical data, data from raw material SDSs, OECD eChem Portal search results

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text